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RUNWAY SAFETY SOUTHWEST REGION
A periodic publication prepared by the Runway Safety Program Office

***Nearly all Runway Incursions are caused by Human Error***

# Could This Happen at Your Airport?

Recently at a non-towered airport, a situation unfolded which could have resulted in fatalities. Fortunately at the last moment, the driver and the pilot saw each other and were able to narrowly avert what would appear to be a collision. Could this happen at your airport?

It was a slow time of day with the sun just coming up over the horizon into a blue cloudless sky. A piece of field maintenance equipment had just finished some routine maintenance in the infield. The supervisor, who was also the escort, had inspected the work and advised the equipment operator he could start back across the airport. As the supervisor started his truck, he glanced up to see a twin turboprop coming out of the sun on short final, and in the next instant, looked into his rearview mirror to see the equipment operator starting toward the same runway. He called on the maintenance frequency for the equipment operator to stop, but to no avail.

The supervisor watched in horror and continued to call as the equipment operator drove up to the runway, stopped, looked both ways and then continued onto the runway, obviously not seeing the plane.

The twin touched down on the numbers and had a rollout of approximately 1,700 feet to the equipment. The supervisor made repeated calls to the equipment driver to exit the runway. There was no response. The pilot appeared to see the equipment, but wasn't slowing down and the equipment operator had his back to the traffic and was too far away for the supervisor to reach on foot. To drive up to the equipment might compound the situation. To call to the aircraft might do the same. Then, the pilot applied full power and lifted off and jogged right as he gained airspeed. At the same moment, the equipment operator heard the plane and caught sight of it over his right shoulder and made a sharp left turn. A collision had been narrowly avoided.

When the supervisor caught up with the visibly shaken driver and asked why he hadn't responded to the radio calls, the driver reached into his pants pocket and produced his maintenance radio, which was turned off. He was asked why the radio was off and he replied that he had trouble hearing it when operating the equipment, so he kept it in his pocket where he had left it and had forgotten about it.

Upon examining the incident, it was found that vehicle and operator safety is a regular topic of airport training sessions. One such session had been conducted two weeks prior to the incident. The

operator was an experienced and valued employee, having worked at the airport for over ten years. Yes, he had looked for traffic, but the sun was in his eyes and he didn't see the aircraft. He thought that when the supervisor said he could start back, that was his go ahead to move across the runway. As for the supervisor, he had heard the aircraft on CTAF and thought the operator was aware. He hadn't given the go ahead to proceed across the runway. As the warden in the film, *Cool Hand Luke*, said, "What we have here is a failure to communicate." With the failure of communication and the sun in your eyes, could this happen at your airport?

To help reduce the risk of a similar occurrence at non-towered airports, as a minimum, we recommend the following:

- Driver Training for *ALL* drivers with access to runways and taxiways.
- Driver safety emphasized continuously and often.
- Consider the number of radios being monitored and their sound quality. A radio monitoring the Unicom or Common Traffic Advisory Frequency (CTAF) works best.
- Use standard aviation radio communication and airport operating procedures.
- Check vehicles for cab noise level. An investment in headsets or other means to help cut down on surrounding noise in equipment is a great help.
- Review ground vehicle and airfield maintenance procedures for operating on the airfield, with special emphasis being given to escort procedures.

[Note: Article submitted by Bruce Kirkendoll, ASW 620]

## US Runway Incursions Decreasing

Runway safety was established as a priority by former FAA Administrator Jane Garvey. The focus continues under Marion Blakey, former chairwoman of the National Transportation Safety Board, which placed incursions on its "most wanted" list.

Airlines in the US were involved in zero runway incursions of the most serious kind in fiscal year 2002. "Good news," FAA Administrator Marion Blakey said, noting that in the 1997-2000 reporting period, the agency recorded an average of one jet-to-jet airline incursion a month in the two most dangerous categories.

Not only were airline category incursions down, but the total number of incursions decreased as well. However, according to Blakey, "One sector of the aviation community, general aviation, did not see a decline, but at least the increasing trend in that segment has been arrested." The figures show that "we are succeeding in improving safety on the ground."

About 60% of all runway incidents are eventually attributed to pilot error, and private pilots are more likely to slip up than are their airline counterparts. When incursions do occur, they tend to be less severe than in the past and the potential for collision is relatively rare.

Although some of the safety trend can be attributed to a decrease in national air traffic, the most significant factors in reducing incursions have been better technology, better coordination between airports, airlines, air traffic controllers and pilots. In addition, the FAA attributes the decline in close calls to education programs and increased attention by the pilots and air traffic controllers.

Blakey is optimistic that the downward trend will continue, pointing to increased availability of technology tools such as AMASS, which will be at the 34 largest airports by January, and the new ASDE-X, which will be deployed to a number of large airports as part of a program that will conclude in 2008.

Total incursions in the most recent report have dropped to 339 in 2002, or 5.2 per 1 million operations, from 407 and a rate of 6.1 per million in the previous year. The two most serious categories decreased from 53 to 37 with rate declines of 0.1 point in each.

There is still much work to be done, Blakey said, to ensure that there is not a serious accident. In fiscal year 2002, there were zero Category A (the most dangerous category where a collision is narrowly averted by extreme action) runway incursions involving two commercial aircraft, two Category A involving commercial with general aviation aircraft and six Category A incursions involving two general aviation aircraft.

Blakey said that statistics show that improvement to general aviation runway safety has leveled off. More attention must be paid to incursions at smaller and rural airports, where issues such as pedestrian and vehicle airfield interference are more common, officials said.

Armed with an improved understanding of historical runway incursion trends and an improved process for collecting, analyzing, and communicating runway safety information, the FAA and the aviation community are making progress toward achieving Department of Transportation and FAA runway safety goals.

[This article includes information from articles from the Fort Worth Star Telegram, the Los Angeles Times and the FAA Runway Safety Report, FY 1999-FY 2002. For additional information refer to the FAA Runway Safety Report on the Southwest Region website: www.faarsp.org/asw]

## A Heads Up on ATC Phraseology Change

Effective February 2003, Air Traffic Controllers are no longer required to say, “TAXI INTO POSITION AND HOLD.” In an effort to reduce verbiage on the frequency, the new phraseology eliminates, “TAXI INTO.” So, now the Controller says simply, “(Runway number) POSITION AND HOLD.”

Example: “NOVEMBER ONE FIVE ECHO, RUNWAY ONE FOUR, POSITION AND HOLD.”

While this reduces verbiage, please be alert to the following:

If the Controller wants you to maintain your present position, he/she says, "HOLD POSITION." **It is very important to not confuse this clearance with "POSITION AND HOLD."** One big difference in the two clearances is to **listen for the Runway numbers.** The Controller will **always** use the Runway numbers before saying, "POSITION AND HOLD" and **never** use the Runway numbers with "HOLD POSITION."

[Article submitted by Bill Tilk, ASW 505]

## Expectation Bias

Many pilot deviations have been caused by pilots following a clearance they were only told to "expect" – either by interpreting it as a clearance, or by failing to notice the differences between the actual clearance and what they had been told to expect. In fact, a study of Aviation Safety Reporting System (ASRS) reports found that 33% of the communication errors between the cockpit and ATC that resulted in runway transgressions identified pilot expectations as contributing to the error.

In one close call, a B-727 was told to expect to land on Runway 4L but later cleared to land on 4R. The pilot did not readback the clearance, nor did the controller request it. The aircraft landed on 4L while another B-727 was holding in position on the displaced threshold. The crew of the landing aircraft did not see the holding aircraft until they were almost over it. This incident occurred at night and the only lights on the holding aircraft were the navigation lights, taxi light and rotating beacon. (NTSB Report Number NYC931A065)

Did you know it takes about twice as much information to "debunk" a wrong conclusion as it does to form a conclusion to begin with? Once we think we have "the picture," we tend to take in information that confirms our thoughts, and ignore information to the contrary. This makes it difficult to realize, for example that we're really crossing runway 23, when we expect to cross runway 14.

[Note: Information taken from *Runway Safety: It's Everybody's Business,* Kim M. Cardosi, Ph.D.]

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